

19 Union Street
P.O. Box 92
Scituate, MA 02066
(781) 545-0895
www.Morsecoinc.com

*Registered Professional Engineers, Land Surveyors
Project Managers & Environmental Consultants*

October 9, 2020

Hingham Planning Board
Town Hall
210 Central Street
Hingham, MA 02043

Re: Crane Drive
Applicant: Christopher Shaughnessy
Subdivision Modification and Waiver Request

Dear Chairman Ramsey & Members of the Board:

On behalf of the Applicant, Morse Engineering Co., Inc. respectfully requests a modification to the definitive subdivision known as Crane Drive. Submitted herewith are the following:

- Fourteen (14) copies of the Form C-1 dated October 9, 2020.
- Ten (10) copies of the Definitive Subdivision Plans revised October 7, 2020 (5 full size, 5 reduced size).
- Filing Fee (To be filed by Owner under separate cover).
- Gravel subgrade 2nd lift - particle size analysis by Thielsch Engineering dated July 7, 2020.
- Gravel subgrade 2nd lift - compaction test results by Thielsch Engineering dated July 14, 2020.
- Asphalt Binder Course - testing report by Thielsch Engineering dated September 3, 2020.
- Asphalt Binder Course – thickness calculation dated October 8, 2020
- Asphalt Binder Course – tonnage slip from T.L. Edwards, Inc.

The modifications include:

1. The gravel subgrade material installed during the second lift did not comply with the ¾ inch sieve for the MassDOT M1.03.1 specification. Therefore, a waiver is requested from Section 5(J3) of the Planning Board Rules and Regulations to allow the gravel base material per the following gradation:

Sieve Designation	MassDOT M1.03.1 Percent Passing	Requested Waiver Percent Passing
3 in.	100	100
1 ½ in.	70-100	70-100
¾ in.	50-85	50- <u>87.7</u>
No. 4	30-60	30-60
No. 200	0-10	0-10

Justification: The material was field tested for compaction and exceeded the project specifications. The material installed during the first lift did comply with the M1.03.1 specification. The material installed during the second lift came from the same source but did not comply.. It was sampled and tested in two locations, and both did not comply with the ¾ inch sieve only. The material was re-tested, and one of the samples passed.

2. The pavement base course was not inspected while being installed. Therefore a waiver is requested from Section 6.E.7.

Justification: The binder course was inspected following installation. It was field tested for compaction, and exceeded the project specifications. Calculations are submitted herewith showing that the binder course was paved to the specified thickness.

No other modifications or waivers are requested under this submittal.

If you have any questions or comments please do not hesitate to contact me at 781-545-0895.

Respectfully Submitted,
Morse Engineering Company, Inc.

A handwritten signature in black ink, appearing to read 'J M Hassett', written in a cursive style.

Jeffrey M. Hassett, P.E.

FORM C-1

**APPLICATION FOR MODIFICATION, RESCISSION OR AMENDMENT OF
DEFINITIVE SUBDIVISION PLAN**

Subdivision: Crane Drive

Date: 10/9/2020

To the Planning Board of the **Town of Hingham:**

The undersigned authorized applicant(s) or owner(s) of all the land shown on the accompanying approved Definitive Subdivision plan located and described as follows:

Plan Title: Definitive Subdivision Plan

Plan Date: 7/20/2017 Revised Through: 10/7/2020

Drawn By: Morse Engineering Company, Inc. Number of Pages: 7

Date of Planning Board Approval: 6/3/2019 Endorsed: 8/12/2019

Assessor's Map and Lot Numbers(s): Map 188 Lot 108

Zoning: Residence B Total Acreage: 3.2 Number of Lots: 1

hereby submits this Application for a Modification X Rescission _____ or Amendment _____ of an Approved Definitive Subdivision Plan.

The Modification is described as follows: This modification includes waivers from section 5.J.C for the base material, and from Section 6.E.7 for the binder course inspection.

All prior conditions of approval shall remain in full force and effect until such time as they are met. Pursuant to Massachusetts General Laws, Chapter 41, Section 81-W, this Modification/Rescission/Amendment shall take effect when: (1) the plan as originally approved or a copy thereof, and a certified copy of the vote of the planning board making such Modification/Rescission/Amendment or change, and any additional plan referred to in such vote, have been recorded, (2) an endorsement has been made on the plan originally approved as such vote is indexed in the grantor index under the names of the owners of record of the land affected.

If a proposed Modification will result in changes to the Definitive Plan, the plan submission requirements for a Definitive Plan shall be followed.

List all mortgage holders of the land: N/A

Permission of the owners affected by any change to the subdivision plan and of the mortgage holders must be obtained.

*Attach a list of lot owners and their addresses.

To the best of my knowledge the information submitted herewith is complete and accurate.

<u>Chris Shaughnessy</u>	520 Bodwell St Avon, MA 02322	781-898-4861
Signature of Owner	Address	Telephone

<u>Chris Shaughnessy</u>	520 Bodwell St Avon, MA 02322	781-898-4861
Signature of	Address	Telephone
Authorized Applicant		

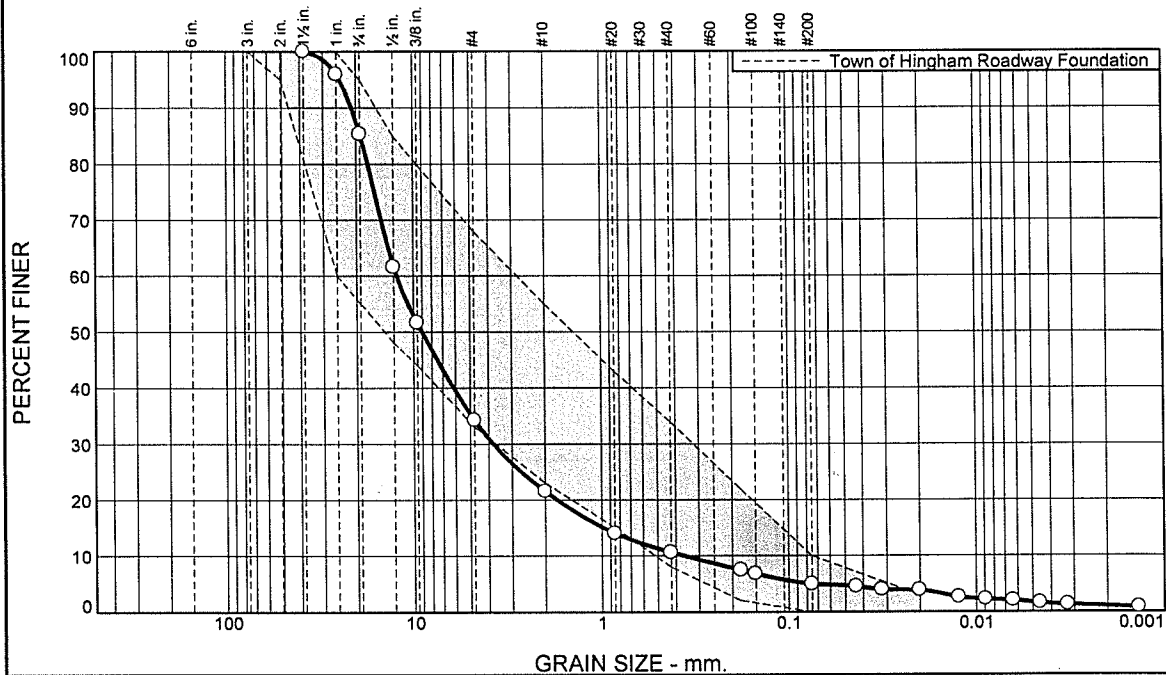
The cost of recording shall be at the expense of the applicant in the case of Amendment or Modification.

The Amendment/Modification/Rescission of the approval of this plan shall not affect the lots in the subdivision which have been sold or mortgaged in good faith and for valuable consideration or any rights appurtenant thereto, without the consent of the owner of such lots, and of the holder of the mortgage or mortgages, if any, thereon. Written consent from said owners and mortgages, if any, is attached hereto.

Hingham Planning Board Chairman

- Submittal requirements:
1. Completed application
 2. Application Fee
 3. Twelve copies of proposed plan (one - full set and eleven - 11"x 17" sets)

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	14.7	51.0	12.8	10.9	5.6	4.0	1.0

Test Results (D7928 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.5"	100.0		
1"	96.0	60.0 - 100.0	
3/4"	85.3	55.0 - 95.0	
1/2"	61.6	48.0 - 85.0	
3/8"	51.6	44.0 - 80.0	
#4	34.3	33.0 - 68.0	
#10	21.5	23.0 - 55.0	X
#20	14.0	15.0 - 43.0	X
#40	10.6	8.0 - 34.0	
#80	7.4	2.0 - 22.0	
#100	6.8		
#200	5.0	0.0 - 10.0	
0.0436 mm.	4.6		
0.0318 mm.	4.0		
0.0200 mm.	3.9	0.0 - 3.0	X
0.0124 mm.	2.6		
0.0089 mm.	2.3		
0.0064 mm.	2.0		
0.0046 mm.	1.6		
0.0033 mm.	1.3		
0.0014 mm.	0.8		

* Town of Hingham Roadway Foundation

Material Description

Brown poorly graded gravel with silt and sand

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= GP-GM AASHTO (M 145)= A-1-a

Coefficients

D₉₀= 21.0522 D₈₅= 18.9309 D₆₀= 12.2602
D₅₀= 8.9820 D₃₀= 3.7732 D₁₅= 0.9808
D₁₀= 0.3624 C_u= 33.83 C_c= 3.20

Remarks

Date Received: 07.07.2020 Date Tested: 07.13.2020

Tested By: AV / IA

Checked By: Rebecca Roth

Title: Laboratory Coordinator

Source of Sample: Sta. 2+00 Depth: 6" / 2nd Lift
Sample Number: I 1/2" Dense Grade

Date Sampled: 07.07.2020

Thielsch Engineering Inc.

Cranston, RI

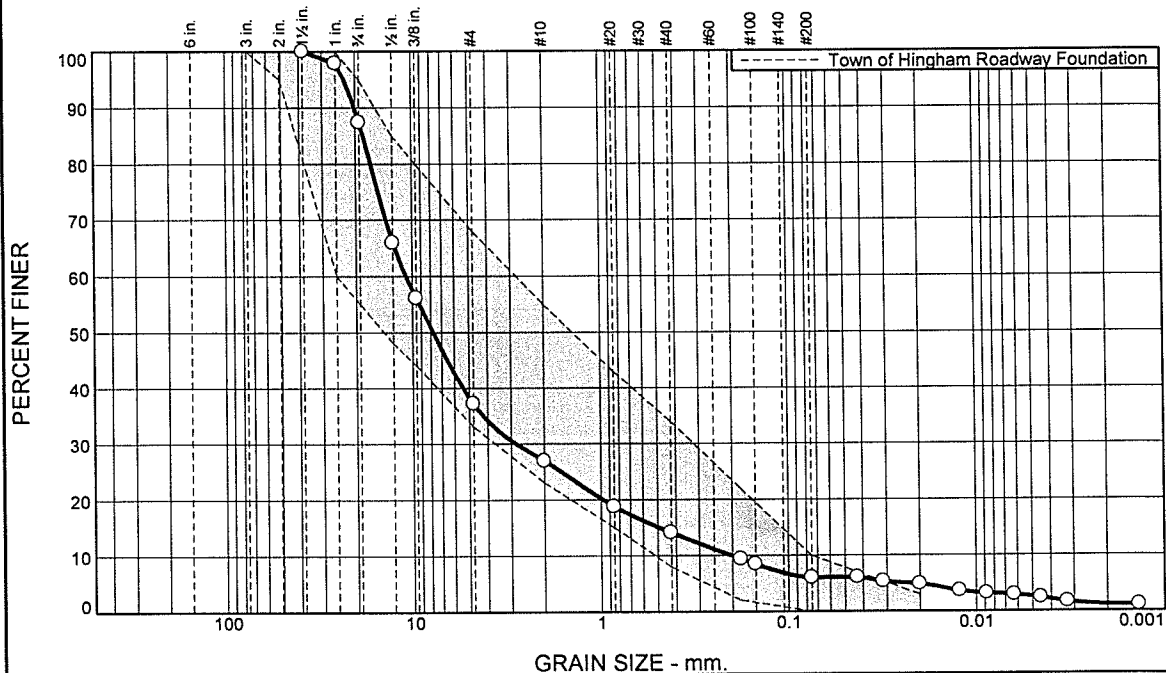
Client: Chessia Consulting

Project: Crane Drive
Hingham, MA

Project No: 74-20-2010

Figure 20-S-1776

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.6	50.2	10.3	12.8	8.1	4.9	1.1

Test Results (D7928 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.5"	100.0		
1"	97.9	60.0 - 100.0	
3/4"	87.4	55.0 - 95.0	
1/2"	66.0	48.0 - 85.0	
3/8"	56.1	44.0 - 80.0	
#4	37.2	33.0 - 68.0	
#10	26.9	23.0 - 55.0	
#20	18.8	15.0 - 43.0	
#40	14.1	8.0 - 34.0	
#80	9.4	2.0 - 22.0	
#100	8.5		
#200	6.0	0.0 - 10.0	
0.0428 mm.	6.1		
0.0313 mm.	5.4		
0.0200 mm.	4.9	0.0 - 3.0	X
0.0122 mm.	3.6		
0.0088 mm.	3.2		
0.0063 mm.	2.9		
0.0045 mm.	2.4		
0.0033 mm.	1.7		
0.0014 mm.	1.1		

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Coefficients

D₉₀= 20.1300 D₈₅= 18.1784 D₆₀= 10.8169
D₅₀= 7.7544 D₃₀= 2.8343 D₁₅= 0.4934
D₁₀= 0.2019 C_u= 53.59 C_c= 3.68

Remarks

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Thielsch Engineering Inc.

Cranston, RI

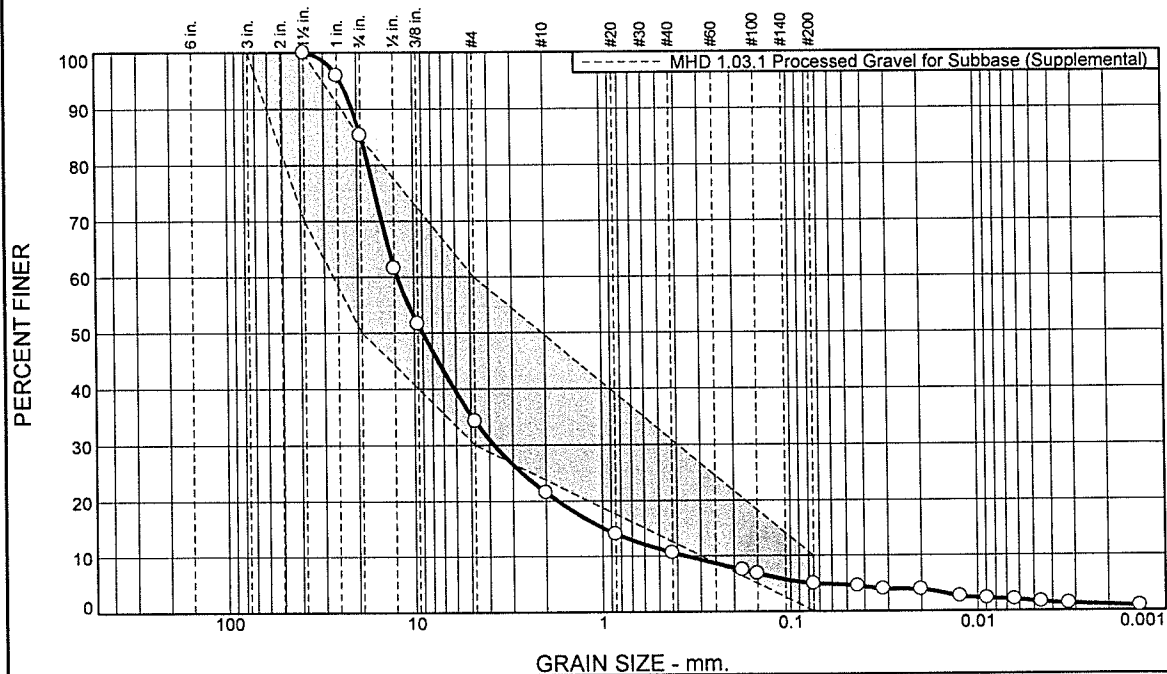
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Figure 20-S-1777

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Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
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1"	96.0		
3/4"	85.3	50.0 - 85.0	X
1/2"	61.6		
3/8"	51.6		
#4	34.3	30.0 - 60.0	
#10	21.5		
#20	14.0		
#40	10.6		
#80	7.4		
#100	6.8		
#200	5.0	0.0 - 10.0	
0.0436 mm.	4.6		
0.0318 mm.	4.0		
0.0200 mm.	3.9		
0.0124 mm.	2.6		
0.0089 mm.	2.3		
0.0064 mm.	2.0		
0.0046 mm.	1.6		
0.0033 mm.	1.3		
0.0014 mm.	0.8		

Material Description

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D₅₀= 8.9820 D₃₀= 3.7732 D₁₅= 0.9808
D₁₀= 0.3624 C_u= 33.83 C_c= 3.20

Remarks

Date Received: 07.07.2020 Date Tested: 07.13.2020

Tested By: AV / IA

Checked By: Rebecca Roth

Title: Laboratory Coordinator

* MHD 1.03.1 Processed Gravel for Subbase (Supplemental)

Source of Sample: Sta. 2+00 Depth: 6" / 2nd Lift
Sample Number: 1 1/2" Dense Grade

Date Sampled: 07.07.2020

Thielsch Engineering Inc.

Cranston, RI

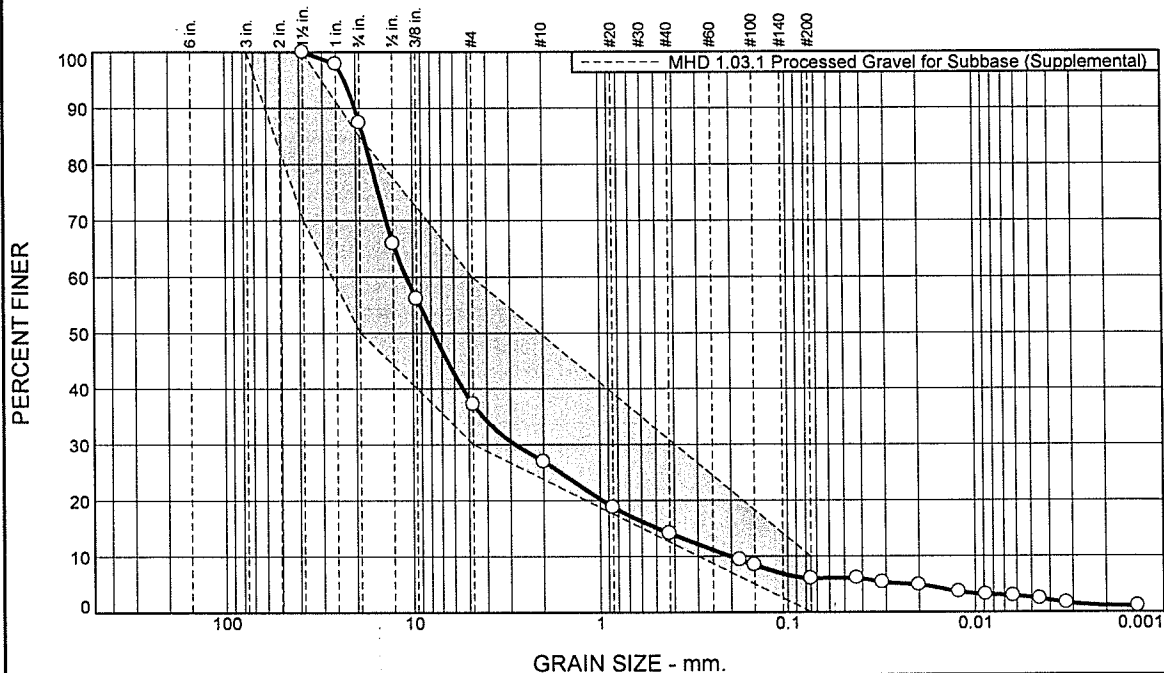
Client: Chessia Consulting

Project: Crane Drive
Hingham, MA

Project No: 74-20-2010

Figure 20-S-1776

Particle Size Distribution Report



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	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
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Test Results (D7928 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.5"	100.0	70.0 - 100.0	
1"	97.9		
3/4"	87.4	50.0 - 85.0	X
1/2"	66.0		
3/8"	56.1		
#4	37.2	30.0 - 60.0	
#10	26.9		
#20	18.8		
#40	14.1		
#80	9.4		
#100	8.5		
#200	6.0	0.0 - 10.0	
0.0428 mm.	6.1		
0.0313 mm.	5.4		
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Sample Number: 1 1/2" Dense Grade

Date Sampled: 07.07.2020

Thielsch Engineering Inc.

Cranston, RI

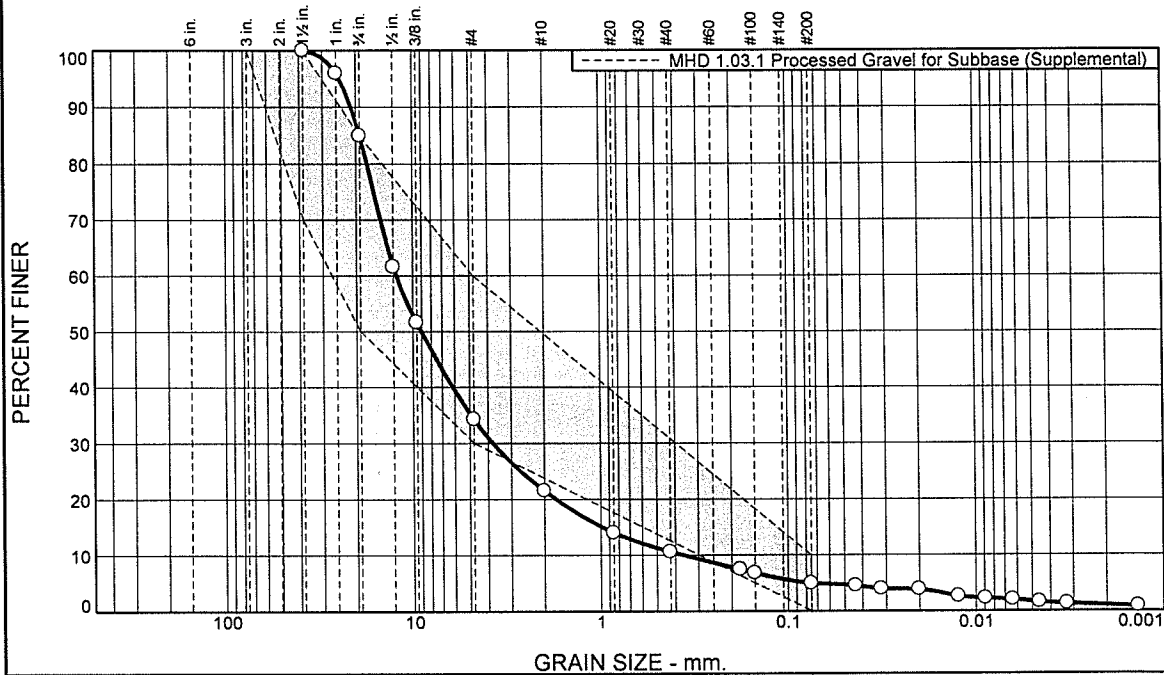
Client: Chessia Consulting

Project: Crane Drive
Hingham, MA

Project No: 74-20-2010

Figure 20-S-1777

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.1	50.6	12.8	10.9	5.6	4.0	1.0

Test Results (D7928 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.5"	100.0	70.0 - 100.0	
1"	96.0		
3/4"	84.9	50.0 - 85.0	
1/2"	61.6		
3/8"	51.6		
#4	34.3	30.0 - 60.0	
#10	21.5		
#20	14.0		
#40	10.6		
#80	7.4		
#100	6.8		
#200	5.0	0.0 - 10.0	
0.0436 mm.	4.6		
0.0318 mm.	4.0		
0.0200 mm.	3.9		
0.0124 mm.	2.6		
0.0089 mm.	2.3		
0.0064 mm.	2.0		
0.0046 mm.	1.6		
0.0033 mm.	1.3		
0.0014 mm.	0.8		

Material Description

Brown poorly graded gravel with silt and sand

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= GP-GM AASHTO (M 145)= A-1-a

Coefficients

D₉₀= 21.1943 D₈₅= 19.0683 D₆₀= 12.2541
D₅₀= 8.9865 D₃₀= 3.7707 D₁₅= 0.9809
D₁₀= 0.3624 C_u= 33.81 C_c= 3.20

Remarks

Date Received: 07.07.2020 Date Tested: 07.13.2020

Tested By: AV / IA

Checked By: Rebecca Roth

Title: Laboratory Coordinator

* MHD 1.03.1 Processed Gravel for Subbase (Supplemental)

Source of Sample: Sta. 2+00 Depth: 6" / 2nd Lift
Sample Number: 1 1/2" Dense Grade

Date Sampled: 07.07.2020

Thielsch Engineering Inc.

Client: Chessia Consulting

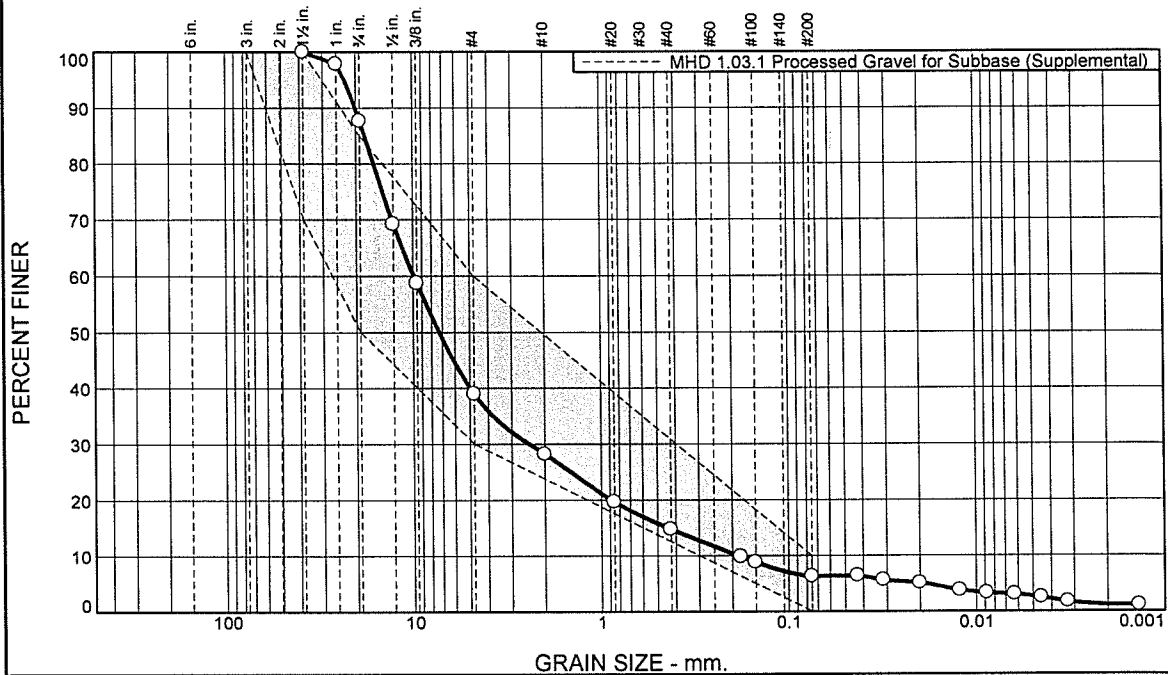
Project: Crane Drive
Hingham, MA

Cranston, RI

Project No: 74-20-2010

Figure 20-S-1776

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.3	48.7	10.8	13.4	8.5	5.1	1.2

Test Results (D7928 & ASTM D 1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.5"	100.0	70.0 - 100.0	
1"	97.8		
3/4"	87.7	50.0 - 85.0	X
1/2"	69.2		
3/8"	58.7		
#4	39.0	30.0 - 60.0	
#10	28.2		
#20	19.7		
#40	14.8		
#80	9.8		
#100	8.9		
#200	6.3	0.0 - 10.0	
0.0428 mm.	6.4		
0.0313 mm.	5.6		
0.0200 mm.	5.1		
0.0122 mm.	3.8		
0.0088 mm.	3.3		
0.0063 mm.	3.1		
0.0045 mm.	2.5		
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Brown poorly graded gravel with silt and sand

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Classification

USCS (D 2487)= GP-GM AASHTO (M 145)= A-1-a

Coefficients

D₉₀= 20.0898 D₈₅= 17.9443 D₆₀= 9.8904
D₅₀= 7.2625 D₃₀= 2.4216 D₁₅= 0.4393
D₁₀= 0.1852 C_u= 53.40 C_c= 3.20

Remarks

Date Received: 07.07.2020 Date Tested: 07.13.2020

Tested By: AV / IA

Checked By: Rebecca Roth

Title: Laboratory Coordinator

* MHD 1.03.1 Processed Gravel for Subbase (Supplemental)

Source of Sample: Sta. 0+65 Depth: 6" / 2nd Lift
Sample Number: 1 1/2" Dense Grade

Date Sampled: 07.07.2020

Thielsch Engineering Inc.

Cranston, RI

Client: Chessia Consulting

Project: Crane Drive
Hingham, MA

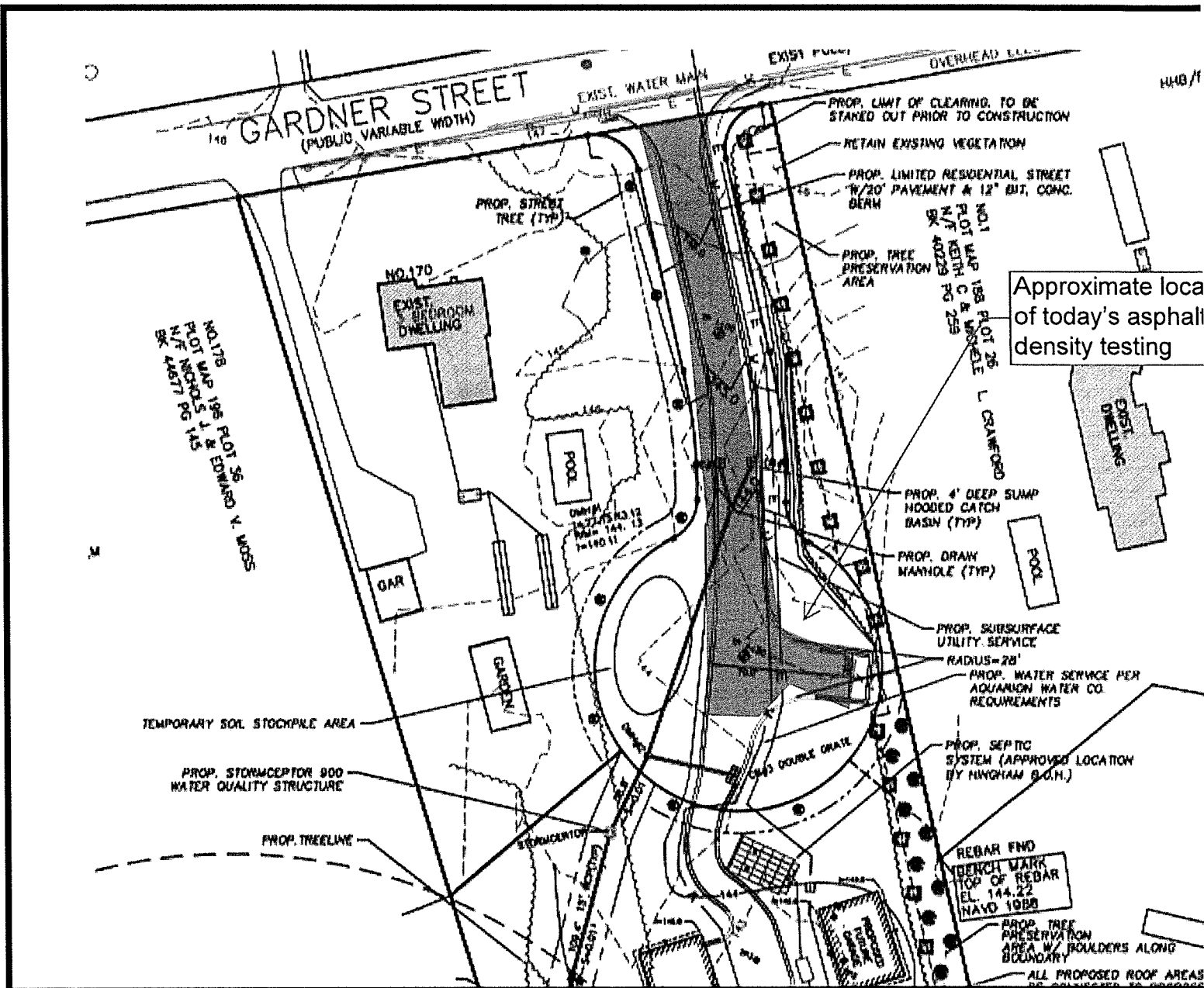
Project No: 74-20-2010

Figure 20-S-1777

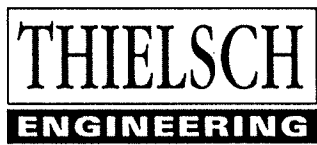
LABORATORY TESTING DATA SHEET, Report No.: 7420-G-120

[illegible]

Date Reviewed: 07.13.2020



THIELSCH ENGINEERING	14 Rocsam Park Road	Client Information:	Site
	Braintree, Massachusetts 02184	Chessia Consulting	Proje
	Phone: 781-848-5184	215 First Parish Road	Repc
	Fax: 401-467-2398	Scituate, MA 02066	Tech
	http://www.Thielsch.com	jchessia@chessia.com	Repc



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Client Information
Chessia Consulting
215 First Parish Road
Scituate, MA 02066
jchessia@chessia.com

EARTHWORK FIELD REPORT

Project:	Crane Drive	Service Date:	July 14 th , 2020
Project No.	CTS 74-20-2010	Technician:	Richard Dunin
Report ID:	7-14-20 Crane Drive Earthwork Field Report		
Services Requested By:	Chessia Consulting		
Site Contact:	John Chessia – Chessia Consulting		
Site Contractor:	Walsh Property Management		
Location:	Crane Drive, Hingham, MA 02043		
Scope of Work:	Perform earthwork observations and density testing.		

Reference Drawings: Grading and Utilities Plan, rev. 04-28-2019

Earthwork Contractor: Walsh Property Management

Material Source: P.A. Landers

Material Classification: Light grey poorly graded gravel with silt and sand (GP-GM)

Material Type: 1-1/2-inch Dense Grade

Earthwork Location: Today's earthwork activities occurred at the second lift of the proposed road subgrade for Crane Drive.

Subgrade Review: Subgrade consisted of material that was previously compacted and tested on 6-23-20.

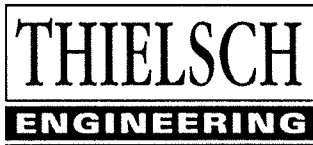
Groundwater: No groundwater was encountered during today's earthwork activities.

Lift Thickness: Material was placed prior to arrival. According to the contractor, the material was placed in one approximate 6-inch compacted lift.

Method of Compaction: Material was compacted using multiple passes with a Compac T50D vibratory rolling drum compactor.

Method of Density Testing: In-place test method using nuclear gauge. (ASTM D6938)

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.



14 Rocsam Park Road
Braintree, MA 02184
Phone: 781-848-5184
Fax: 401-467-2398
<http://www.Thielsch.com>

Client Information
Chessia Consulting
215 First Parish Road
Scituate, MA 02066
jchessia@chessia.com

EARTHWORK FIELD REPORT Cont.

Proctor Method: Modified Proctor, Method C (ASTM D1557)

Laboratory Sample No.: T.E.I. 20-S-B229

Test Results: Four (4) compaction tests were performed during today's earthwork activities. All test results were above 95% of the proctor value and in general accordance with the project specifications.

Comments: John Chessia of Chessia Consulting was informed of all test results prior to departure.

Report ID: 7-14-20 Crane Drive Earthwork Field Report

Attachments: 7-14-20 Earthwork Field Density Report
7-14-20 Field Sketch

A handwritten signature in black ink, appearing to read "Richard Dunin".

A handwritten signature in black ink, appearing to read "Greg Pulsifer".

Observed By: Richard Dunin
Field Technician

Reviewed By: Greg Pulsifer
Project Manager

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Client Information:
Chessia Consulting
215 First Parish Road
Scituate, MA 02066
jchessia@chessia.com

Earthwork Field Density Report

Project: Crane Drive TEI Project No.: CTS 74-20-2010
Project Address: Crane Drive, Hingham, MA 02043 Date of Service: 7/14/2020

Density Gauge Information

Make: Troxler Date of Calibration: 1/9/2020
Model No.: 3440 Source of Calibration: QC Resources
Serial No.: 22318 Standard Counts: D: 2025 M: 653
Duration of Test: 15 seconds Moisture Offset (%): Not Applicable

Material Information

Description: Light grey poorly graded gravel with silt and sand (GP-GM) TEI Laboratory Sample Number: 20-S-B229
Source: P.A. Landers Corrected Max Dry Unit Wt. (pcf): 141.5
Location: Stockpile Corrected Opt Water Content (%): 5.2
Datum: 6-inches Above First Lift on Roadway Subgrade Req. Minimum Compaction (%): 95.0

Density and Moisture of In-Place Soil via Nuclear Method (D6938)

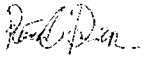

Test #	Test Location	Lift/Elevation	Probe Depth (in)	Water Content (%)	Dry Density (pcf)	Dry Density (% comp)
1	Approximate Sta. 0+25 (center)	Datum	4	2.5	137.0	96.8%
2	Approximate Sta. 1 + 25 (right)	Datum	4	2.1	136.1	96.2%
3	Approximate Sta. 2+25 (left)	Datum	4	1.8	135.6	95.8%
4	Approximate Sta. Hammerhead	Datum	4	2.0	137.6	97.2%

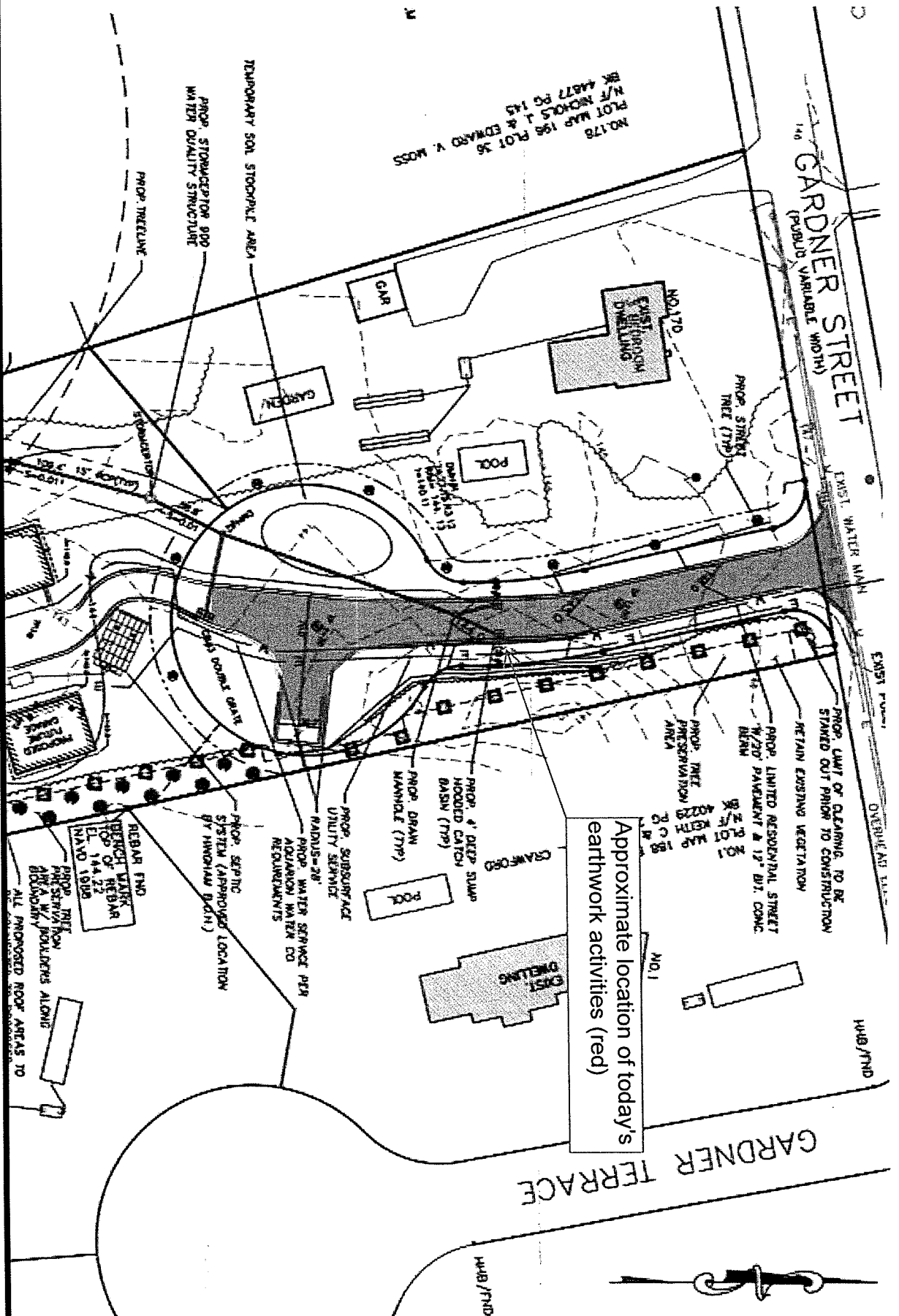
Results Within Specification Limits: ☒

Results Outside Specification Limits: ☐

Comments:

Tested By: Richard Dunin	Reviewed By: Greg Pulsifer
Title: Field Technician Date: 7/14/2020	Title: Project Manager Date: 7/16/2020

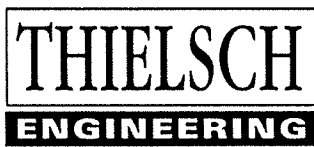


Approximate location of today's
earthwork activities (red)

THIELSCH

ENGINEERING

14 Rocsam Park Road	Client Information:	Site Plan: Grading and Utilities Plan
Braintree, Massachusetts 02184	Chessia Consulting	Project No: CTS-74-20-2010
Phone: 781-848-5184	215 First Parish Road	Report No: 7-14-20 FS
Fax: 401-467-2398	Scituate, MA 02066	Technician: Richard Dunin
http://www.Thielsch.com	ichessia@chessia.com	Report Date: July 14 th , 2020



14 Rocsam Park Road
Braintree, Massachusetts 02184
Phone: 781-848-5184
Fax: 401-467-2398
<http://www.Thielsch.com>

Client Information
Chessia Consulting
215 First Parish Road
Scituate, MA 02066
jchessia@chessia.com

ASPHALT FIELD REPORT

Project:	Crane Drive	Service Date:	September 3 rd , 2020
Project No.	CTS 74-20-2010	Technician:	Richard Dunin
Report ID:	09-03-20 Crane Drive Asphalt Daily Report		
Services Requested By:	Chessia Consulting		
Site Contact:	John Chessia – Chessia Consulting		
Site Contractor:	Walsh Property Management		
Location:	Crane Drive, Hingham, MA 02043		
Scope of Work:	Perform asphalt density testing.		

Reference Drawings: Grading and Utilities Plan, rev. 04-28-2019

Asphalt Mix and Quantity: According to the contractor, HMA Binder was placed. Because the asphalt placed prior to TEI's arrival on site, the quantity is unknown.

Asphalt Contractor: T. L. Edwards Inc.

Asphalt Supplier: T. L. Edwards Inc.

Asphalt Placement Type: Binder Course.

Placement Location: Today's asphalt testing was performed on the entirety of Crane Drive.

Asphalt Thickness: Unknown, asphalt was placed prior to TEI's arrival on site.

Asphalt Temperature: Not applicable, asphalt was placed prior to TEI's arrival on site.

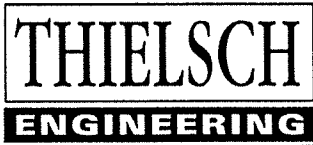
Primary Compaction: Unknown, asphalt was placed prior to TEI's arrival on site.

Secondary Compaction: Unknown, asphalt was placed prior to TEI's arrival on site.

Lab Density Test Method: A maximum theoretical density number of 157.7 pcf was provided by the supplier.

Tests Performed: Five (5) nuclear gauge density tests were performed. Test results ranged from 92.0 and 100.0% of the provided maximum theoretical density value, in general accordance with the project specifications.

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.



14 Rocsam Park Road
Braintree, Massachusetts 02184
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Client Information
Chessia Consulting
215 First Parish Road
Scituate, MA 02066
jchessia@chessia.com

ASPHALT FIELD REPORT Cont.

Comments: John Chessia of Chessia Consulting was notified of all test results and observations prior to departure.

Report ID: 09-03-20 Crane Drive Asphalt Daily Report

Attachments: 09-03-20 HMA Pavement Nuclear Density Report
09-03-20 Field Sketch

A handwritten signature in black ink, appearing to read "Richard Dunin".

A handwritten signature in black ink, appearing to read "Ronelle LeBlanc".

Observed By: Richard Dunin
Field Technician

Reviewed By: Ronelle LeBlanc E.I.T.
Project Manager

Note: Thielsch Engineering personnel are present on-site to observe certain operations of the contractor and to record and report certain data related to those operations to our client. Neither the presence nor the activities of our personnel shall relieve any contractor from its obligation to meet contractual requirements. Further, the contractor retains sole responsibility for site safety and the methods, operations and sequences of construction. Field services were conducted in general accordance with associated AASHTO, ACI, ASTM, and DOT specifications.



14 Rocsam Park Road
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Client Information:
Chessia Consulting
215 First Parish Road
Scituate, MA 02066
jchessia@chessia.com

HMA Pavement Nuclear Density Report

Project:	Crane Drive	TEI Project No.:	CTS 74-20-2010
Project Address:	Crane Drive, Hingham MA	Date of Service:	9/3/2020

Density Gauge Information

Make:	Humboldt	Date of Calibration:	2/25/2020
Model No.:	5001 EZ	Source of Calibration:	QC Resources
Serial No.:	4295	Standard Count:	D: 2260.6 M: 448.7
Duration of Test:	15 Seconds	Duration of Std Count:	4 Minutes
Random Sample:	Not Applicable	Thickness of Lift Tested:	Unknown

Asphalt Material Description

Source:	T. L. Edwards Inc.	Material ID:	HMA Binder	Lot #:	Unknown
Plant Type:	Drum	Material #:	Unknown	Sublot #:	Unknown

Density of HMA in Place via Nuclear Method (D2950)

Test #	Test Location	Req. Comp.	Max. Density	Test Density	% Comp.
1	Approximately Sta. 0+25	92-99%	157.7	158.2	100.3%
2	Approximately Sta. 0+75, Left	92-99%	157.7	146.7	93.0%
3	Approximately Sta. 1+50	92-99%	157.7	146.7	93.0%
4	Approximately Sta. 1+90	92-99%	157.7	145.1	92.0%
5	Approximately Sta. 2+30, Left	92-99%	157.7	154.8	98.2%

Results Within Specification Limits: ☒

Results Outside Specification Limits: ☐

Comments: Asphalt was placed prior to TEI's arrival.

Inspected by:	Richard Dunin	Reviewed by:	Ronelle LeBlanc, E.I.T.
Title:	Field Technician	Date:	9/3/2020
		Title:	Project Manager
		Date:	9/9/2020



10 New Driftway, Suite 303, P.O. Box 92
Scituate, MA 02066
(781) 545-0895

JOB CRANE DRIVE

SHEET NO. _____ OF _____

CALCULATED BY JMH DATE 10/8/2020

CHECKED BY _____ DATE _____

SCALE _____

BINDER PAVEMENT THICKNESS

PAVED AREA = 11,100 SF (PER AS-BUILT SURVEY)

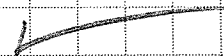
SPECIFIED THICKNESS = 3 IN = 0.25 FT

TONNAGE PLACED = 218 TONS (PER T.L. EDWARDS SLIP)

TONNAGE REQUIRED :

$$11,100 \text{ SF} \times 0.25 \text{ FT} \times 145 \text{ LBS/CF} \times \frac{1 \text{ TON}}{2000 \text{ LBS}} = 201 \text{ TONS}$$

218 TONS > 201 TONS



T.L. EDWARDS, INC.

Manufacturers and Installers of Bituminous Concrete Products

GENERAL CONTRACTOR

P.O. BOX 507 • AVON, MA 02322

OFFICE: (508) 583-2029 • PLANT (508) 587-6953

TO: J
T. L. EDWARDS

C. J. SHAUGHNESSY CRANE WAY

TRUCK NO.	TONS REQ.	PROD. NO.	PRODUCT DESCRIPTION
009	3.00	20 10	BINDER

Int Name: AVON PLANT

Ticket: 00794539

Weightmaster Name: 1

Tare	Net	Gross
9.10	30.63	49.73
7.33	27.79	45.12

Job Total

218.39

Ton. (US)

198.12

Tonns

STORED TARE

(METRIC)

ad #
B

Date & Time
7/16/2020 10:57:10AM

Fob/Del
FOD

RECEIVED BY: _____

CUSTOMER COPY